REMARKS/ARGUMENTS

Reexamination of the captioned application is respectfully requested.

By the current amendment, Applicants basically:

1. Amend claims 11 and 12 to depend from independent claim 3.
2. Respectfully traverse all prior art rejections.

B. PATENTABILITY OF THE CLAIMS

Claims 1, 4, 5, 7, 8, 9, 14, 15, 16, 17, 18 and 19 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication 2003/0059991 to Teramoto et al in combination with U.S. Publication 2007/0020826 to Yamazaki, applicant's admitted prior art, U.S. Publication 2004/0201874 to Yamazaki, U.S. Patent 4,584,025 to Takaoka et al and U.S. Publication 2003/0148565 to Yamanaka. Claim 2 stands rejected under 35 USC 103(a) as being unpatentable over U.S. Publication 2003/00599991 to Teramoto et al in combination with U.S. Publication 2007/0020826 to Yamazaki. Claims 3, 11 and 12 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Publication 2003/00599991 to Teramoto et al in combination with U.S. Publication 2007/0020826 to Yamazaki and U.S. Publication 2005/014119 to Fujimura. All prior art rejections are respectfully traversed for at least the following reasons.

Applicants independent claims specify, e.g., that, as a result of the method, a grain size of the polycrystalline microstructure is uniformly increased in length and width as the polycrystalline microstructure is formed in the semiconductor material layer by the lateral solidification from the boundary of the region. Applicant's uniform increase in grain size is facilitated by, e.g., a high thermal conductivity material layer formed between the semiconductor material layer and the substrate, the high thermal conductivity material having a thermal conductivity of at least 10 W/mK.

The June 3, 2008 office action asserts that Teramoto has a high thermal conductivity material layer between its semiconductor material layer and its substrate. In particular, the office action notes that Teramoto's has an alleged high thermal conductivity material made of silicon nitride. The office action cites paragraph [0033], which does indicate that Teramoto's insulation film (used as a buffer on the glass substrate) can be silicon oxide film or silicon nitride film.

What must be understood is that silicon nitride can have a variety or range of thermal conductivity values according to its state, including thermal conductivity values considerably lower than Applicant's required at least 10 W/mK. So the fact that Teramoto describes nitride silicon does not mean that Teramoto discloses a high thermal conductivity material.

Applicant provides two exhibits as evidence that silicon nitride can have a variety or range of thermal conductivity values according to its state. The first exhibit is Kittl, J.A., et al., "Time-Resolved Temperature Measurements During Rapid Solidification of Si-As Alloys Induced by Pulsed-Laser Melting", J. Appl. Phys. 78(3), 15 April 1993, pp. 3725-3739. Table 1 on page 3729 of Kittl shows Si_3N_4 as having a thermal conductivity of 0.017 W/cmK.

A second exhibit bears the caption "Ceralloy® Silicon Nitride Ceramics Property Comparison", which shows a thermal conductivity of Ceralloy (Silicon Nitride Ceramics) as being in a range from 14 to 42 W/mK.

Silicon nitride ordinarily should be used with other metal materials to obtain enough crystal growth as disclosed in Teramoto. Using other metal materials with silicon nitride will complicate the process of manufacturing the devices, and the metal material may cause some property degradation of the resulting devices.

On the other hand, Applicant applies the high thermal conductivity material with thermal conductivity at least 10 W/mK, so that heat can be spread and uniform cooling be promoted in the region, whereby after irradiation a polycrystalline microstructure is formed in the semiconductor material layer by lateral solidification from a boundary of the region (on page 5, lines 5-9 in the Applicant's specification).

Applicant therefore reiterates that the fact that Teramoto describes nitride silicon does not mean that Teramoto discloses a high thermal conductivity material. In view of the foregoing and other considerations, all claims are deemed in condition for allowance. Accordingly, Applicant respectfully requests that all prior art rejections be withdrawn. A formal indication of allowability is earnestly solicited.

C. INFORMATION DISCLOSURE STATEMENT (IDS)

Submitted on even date herewith is an Information Disclosure Statement (IDS) which cites both the Kittl and Ceralloy® exhibits mentioned above.

D. MISCELLANEOUS

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application and the IDS.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

NIXON & VANDERHYE P.C.

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